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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,549	11/21/2003	Jean-Francois Saint Etienne	245499US41X CONT	9241
22850 7590 07/09/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER CHOU, ALBERT T	
			ART UNIT 2616	PAPER NUMBER
			NOTIFICATION DATE 07/09/2007	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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CS

<b>Office Action Summary</b>	<b>Application No.</b> 10/717,549	<b>Applicant(s)</b> SAINT ETIENNE ET AL.	
	<b>Examiner</b> Albert T. Chou	<b>Art Unit</b> 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Double Patenting*

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of copending Application No. 10/287,912. Although the conflicting claims are not identical, they are not patentably distinct from each other.

For example, Claim 1 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/287,912. The only difference between the two claims is the following:

Claim 1 of the present application broadens the scope of claim 1 copending Application No. 10/287,912, by omitting the features of

(a) Segregation: the passband of a virtual link being equal to: (packet size)/(minimum inter-packet time), the sum of passbands of the virtual links in transmission being less than about 5 Mbits/s; and

(b) Multiplexing: wherein each switch comprises means for discarding incoming packets if, for each incoming virtual link, one or more predetermined time constraints for said incoming packets are violated, and wherein each destination equipment comprises means of subscribing for an application in reception to at least one virtual link and making the segregation between virtual links for the duration of the application.

However, it would have been obvious to one of ordinary skill in the art to eliminate unnecessary features from the invention of claim 1 of copending Application No. 10/287,912. The motivation would have been to provide a simpler process of implementing a redundant switched full-duplex Ethernet type communication network.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,188,689 to Katsube et al. (hereinafter "Katsube").

Regarding claim 1, Katsube teaches a switched full-duplex Ethernet type communication network **[Figs. 5(a) & 5(b)]** comprising at least one source subscriber

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equipment **[Fig. 5(a); Sending Host 311]** and at least one destination subscriber equipment **[Fig. 5(a); Receiving Host 312]** connected to each other through at least one physical link **[Figs. 5(a) & 5(b); Ethernet/ATM Links interconnecting Routers, Ethernet and ATM networks]** through at least one switch **[Fig. 5(a); Routers 341-343 & Ethernet Switch 322]** and through at least one virtual link (VL) **[Fig. 5(a); e.g. A Dedicated Virtual Link indicated by DVLI=Y1]**, which is the conceptual representation of a link from a source equipment to at least one destination equipment **[col. 7, lines 18-26]**, characterized in that each source equipment that transmits Ethernet frames comprises:

a control to segregate between virtual links **[Figs. 8 & 9 provide configuration information regarding frames from Sending Host 311 addressed to Destination Host 312 with DVLI=x1 and Destination Host 314 with DVLI=x2 for segregation between virtual links; col. 9, lines 6-12]** and to allocate a passband for each virtual link **[A fixed passband is inherent in Ethernet 321. Namely, the sum of transmit rates of x1 and x2 can't exceed the capacity of underlying Ethernet 321 technology]**, and

a control to multiplex the virtual links on the physical links output from this equipment **[Figs. 5(a), 8 & 9; DVLI x1 & x2 are multiplexed through an Ethernet link connected to Ethernet backbone 321; col. 9, lines 6-12]**, each transmitted frame having a field that identifies the virtual link to which it belongs **[Fig. 9; Frames from Sending Host 311 addressed to destination Hosts 312 & 314 containing DVLI=x1 and DVLI=x2 respectively in the Output Datalink Header; col. 9, lines 6-12]**.

Regarding claim 2, Katsube teaches a network, in which each destination equipment **[Figs. 5(a) & 5(b); Receiving Host 312]** comprises a control to subscribe in reception to at least one virtual link **[Fig. 5(a); Receiving Host 312 with DVLI=w1]** and to make segregation between virtual links as far as the application **[Fig. 5(b); Receiving Host 312 making the segregation between virtual links in upper layers, e.g. TCP/IP]**.

Regarding claim 3, Katsube teaches a network, in which each switch comprises a control to control an incoming passband for each virtual link **[Figs. 10 & 14b; Specify a bandwidth for each IP flow corresponding to each DVL by allocating an ATM-VC and reserving the bandwidth for the ATM-VC; col. 14, lines 3-8]**

Regarding claim 4, Katsube teaches a network comprising a static configuration table **[Figs. 10-13; DVL Information Table 913 & IP Routing Table 916]** allowing each switch to, know the virtual links that it has to switch **[Figs. 10-13; Router, Fig. 10, switches virtual links based on DVL Information Table 913 & IP Routing Table 916]** and a number of authorized packets for a virtual link **[A fixed passband is inherent in Ethernet I/F Boards 93-94 & ATM I/F Board 95]**.

Regarding claim 5, Katsube teaches a network, in which each switch comprises:

a control to configure each input port separately to indicate the output ports to which each Ethernet frame must be directed as a function of the identifier of the virtual link [Figs. 10-13; DVL Controlling Section 911, e.g. Input Port I/F=1, Input DVLI=x1, Output Port I/F=2, DVLI=y1; col. 10, lines 52-61, col. 11, lines 28-37];

a control to monitor flow of Ethernet frames associated with each virtual link that passes through the switch [Figs. 10-13; DVL Controlling Section 911, e.g. Input Port I/F=1, Input DVLI=x1, Output Port I/F=2, DVLI=y1; col. 10, lines 52-61, col. 11, lines 28-37];

a control to reformat the flow in each virtual link [Fig. 10; AAL Transmission/Reception 953 & 957, Segmentation and Reassembly functions & ATM layer functions 954 & 958 or TCP/IP layers], and

a control to multiplex flows in virtual links on each output port [Figs. 10-13; DVL Controlling Section 911, e.g. Input Port I/F=1, Input DVLI x1 & x2 flows are multiplexed via Output Port I/F=2, using DVLI y1 & y3; col. 10, lines 52-61, col. 11, lines 9-59].

Regarding claim 7, Katsube teaches a network, in which a virtual link (VL) is characterized by:

a transfer direction, the virtual link being single directional [Figs. 5(a), 11-13; e.g. Input DVLI=x1, Output DVLI=y1; col. 10, lines 53-67];

a source equipment [Figs. 5(a); Sending Host 311];

one or several destination equipment [Figs. 5(a); Receiving Host 312];



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a fixed passband, a guaranteed maximum time for transfer of packets from a source equipment to a destination equipment [Figs. 10 & 14b; Specify a bandwidth or QoS for each IP flow corresponding to each DVL by allocating an ATM-VC and reserving the bandwidth for the ATM-VC; col. 14, lines 3-8], regardless of the behavior of the rest of the network, each virtual link having its own transfer time [Figs. 11 & 15; each virtual link has its own QoS or priority];

a fixed path on the network [Figs. 5(a), 11-13; e.g. a fixed path from Sending Host 311 to Receiving Host 312 via DVLI=x1, DVLI=y1, DVLI=z1 & DVLI=w1]; and

a unique identifier [Figs. 5(a), 11-13; e.g. Input DVLI=x1, Output DVLI=y1; col. 10, lines 53-67].

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,188,689 to Katsube et al. (hereinafter "Katsube") in view of US Patent No. 6,721,273 to Lyon.

Regarding claim 6, Katsube teaches a network, in which each switch **[Fig. 10; Routers 341-343]** comprises the following in sequence: an input port **[Fig. 10; Ethernet/ATM Input Ports 933,936 & 954]**, a switching motor supporting multi-destination transfers **[Fig. 10; Common Bus 92 performs IP processing and operations related to DVLs; col. 9, lines 58-61]**, flow reformatting means **[Fig. 10; AAL Transmission/Reception 953 & 957, Segmentation and Reassembly functions & ATM layer functions 954 & 958]**, virtual link multiplexing means **[Figs. 10-13; DVLI x1 & x2 are multiplexed through an Ethernet Output I/F Port 2; col. 10, lines 53-61]**, an output port **[Fig. 10; Ethernet/ATM Output Ports 936,943 & 958]**.

Katsube does not expressly teach a network, in which each switch comprises flow control means applied to the input and output sides of a switching fabric/switching motor supporting multi-destinations transfers.

Lyons teaches a switch **[Fig. 1; Switch 10]** comprises input ports **[Fig. 1; Input Ports 14a-14m]** and input flow control means **[Fig. 1. Traffic Flow Controller 100 & Fig. 6, Input Buffer Queue Control 20a]**, a switching fabric/motor supporting multi-destination transfers **[Fig. 1, Switching Core 12]**, output ports **[Fig. 1; Output Ports 16a-14n]** and output flow control means **[Fig. 1. Traffic Flow Controller 100 & Fig. 3, Output Buffer Queue Control 24]**.

It would have been obvious to a person of ordinary skill in the art at the time of the invention to implement the flow control means in data switches as taught by Lyon in Katsube's routers/switches which are capable of transferring packets at the frame level defined by the virtual link concept.

The motivation for combining the reference teachings would be to enable Katsube's ATM/Router network to effectively monitor and control QoS or bandwidth for each IP flow corresponding to each dedicated virtual link by exclusively allocating an ATM-VC and reserving the bandwidth for the ATM-VC.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,188,689 to Katsube et al. (hereinafter "Katsube") in view of US Patent No. 6,282,669 to Imanaka et al. (hereinafter "Imanaka").

Regarding claim 8, Katsube teaches each limitation set forth its parent claim.

Katsube does not expressly teach that a network redundancy is achieved by consisting of doubling up the network and each subscriber having a connection to each of the two networks.

Imanaka teaches that a network redundancy is achieved by consisting of doubling up the network **[Fig. 1; Two networks, namely, System-A and System-B;**

**col. 2, lines 43-65]** and each subscriber having a connection to each of the two networks **[Fig. 1; Nodes 10 and 20 connects to System-A Communication Line 1 and System-B Communication Line 2; col. 2, lines 43-65].**

It would have been obvious to a person of ordinary skill in the art at the time of the invention to implement Imanaka's Ethernet communication redundancy in Katsube's switched Ethernet-type communication network system.

The motivation for combining the reference teachings would be to provide an Ethernet communication redundancy between a plurality of nodes in an Ethernet-type network system, which need not switch communication lines in order to achieve network and/or transmission data redundancy.

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US Patent Application Pub. No. US 2006/0107108 A1 by Geng et al. disclose "Service Clusters And Method In A Processing System With Failover Capacity"
- US Patent No. 5,379,278 to Safadi discloses "Method Of Automatic Communications Recovery"

- US Patent No. 4,780,869 to Engdahl et al. disclose "Local Area Network Redundancy System"
- US Patent No. 6,766,482 to Yip et al. disclose "Ethernet Automatic Protection Switching"

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert T. Chou whose telephone number is 571-272-6045. The examiner can normally be reached on 8:30 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham, can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Albert T. Chou

June 11, 2007

Ac

  
CHI PHAM  
SUPERVISORY PATENT EXAMINER

7/26/07